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ABSTRACT

This study examined the validity of using the Child Behavior Checklist (CBCL) Thought Problem sub-scale with urban low-income children (N=46) referred to a hospital-based mental health clinic. It was hypothesized that cultural, linguistic, or socio-economic status (SES) factors may influence the manner in which parents understand and respond to items on the Thought Problem Scale. Preliminary analysis of CBCL data indicated that more than 33% of the children were in the clinical range for thought problems in contrast to less than 5% of the same sample who were diagnosed by a clinical psychiatrist or therapist. The CBCL items that appear sensitive to misinterpretation concern what constitutes strange behavior, whether or not a child continuously repeats things, and whether a child sees imaginary things. It appears that low SES parents many over-endorse these items. Parents are more often incorrect in their interpretation of critical items for thought problems. Caution must be taken when interpreting parent questionnaires from a sample of low SES parents, where the questions addressed may not be understood as intended. This consequence can lead to over-identification of serious psychopathology in these children. (JDM)

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Diagnosing Childhood Thought Disorder: Do Parent Checklists Yield False Positives?

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Accurate psychological assessment of low SES clients using standardized behavior rating scales presents a unique challenge because the interpretation of the items by parents appears to vary from that intended in the normative sample.

Raadal et al. (1994) assessed behavior problems in children from low income families using the Achenbach's Child Behavior Checklist (CBCL) and found that even in a non-clinical, school-based sample children displayed a two times higher rate of attention and aggressive problems than children in a non-impoverished sample. Thought problems were reported at three times the rate of the normal sample, which was not believable in terms of the base rate of psychosis in childhood. Raadal speculated that either the CBCL was invalid for that predominantly low income sample, or that child psychopathology may actually be higher in groups stressed by poverty. It appears that the CBCL may give false positives for thought problems in this population. This would be a potentially serious error, given the severity of diagnoses, e.g. psychosis and pervasive developmental disorder (PDD), associated with elevations on this scale.

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In our study we wished to explore the validity of the CBCL Thought Problems sub-scale for an urban low income population. We hypothesized that cultural, linguistic or SES factors may influence the manner in which parents understand and respond to items on the Thought Problems scale.

Preliminary analysis of the CBCL data for 46 children referred to a hospital based mental health clinic indicates that more than a third of the sample was rated in the clinical range for thought problems in contrast to the less than 5% of the same sample diagnosed with psychosis or PDD by a clinic psychiatrist or therapist.

The CBCL items that appear sensitive to misinterpretation are "strange ideas," "strange behavior," "repeats acts over and over," and "sees things that aren't there." It appears that low SES parents may over-endorse these items. The manner in which these items may be misunderstood was analyzed. Individual write-in responses by both parents and teachers were categorized into "appropriate" interpretation of the question vs. "inappropriate" interpretation of the item. For example, a correct interpretation of "repeats acts over and over," intended to elicit unusual compulsive behavior, would be "drew the same picture of a school bus for weeks." An incorrect interpretation of the same item would be "snacks, sneaking dessert," a relatively common child behavior. Parents were more often incorrect in their interpretation of critical items for thought problems than were teachers. It is concluded that parent questionnaire responses must be interpreted with caution in urban low SES samples where questions may not be understood as intended, leading to the over-identification of serious psychopathology in these children.

Introduction

Child clinicians in urban mental health clinics are frequently asked to assess the possibility of emergent thought disorder or psychosis in children who stand out as "different" from children with the more common disruptive behavior disorder presentations. There are some differences emerging in apparent frequencies of child psychopathology among lower socioeconomic groups which may reflect real differences in child disturbance or may be, in part, an artifact of the instruments used to assess these children. Kazdin (1992) has reported that lower parent income and educational level is associated with higher rates of dysfunction among their children. Raadal et al. (1994) , in an article assessing behavior problems in 5 to 11 year old children from low income families with the widely used Child Behavior Checklist (CBCL), found that even in a non-clinical, school-based sample, children displayed two times higher rates of attention and aggressive problems than children in the standardization sample. Although the authors did raise the possibility that the CBCL may not be valid for predominantly low income parents, they also noted that child psychopathology may actually be higher in groups stressed by poverty. Several previous studies (Evans, 1975; McIntyre and Keesler, 1986) support the latter hypothesis, particularly for externalizing disorders. Yet Raadal's finding that thought problems were reported at three times the rate of the normative sample was not believable in terms of the expected base rate of psychosis (less than 1% for an adult population and far less than this before young adulthood). Even when the pervasive developmental disorders , which are also quite rare with an estimated incidence of 0.5% (Simms and Schum, 2000), are combined with psychotic disorders, the overall incidence of thought disorder seen in child clinic samples should be very low.

Spuriously high elevations on the Thought Problems scale would be a particularly serious error in view of the severity of clinical diagnoses associated with such scores.

The CBCL (Achenbach,1991) is one of the best studied and widely used paper-and pencil checklists for parents with established reliability in clinical and nonclinical populations. Yet it has been suggested (Raadal et al 1994, Latkovich, 1996) that the normative sample on which the CBCL was developed (over 80% Caucasian) does not match the population of urban African American children with whom it is frequently used. There is concern about the validity, or extent to which the checklist measures what it is intended to measure in this group. It is also possible that some items might be more frequently misunderstood by this group, i.e. content bias, than by the parents in the normative sample, decreasing the usefulness of the CBCL in this group. Cultural, linguistic, and/or socioeconomic factors may influence how parents understand and respond to items on the Thought Problems scale, causing an elevation in scores which is not reflected in concurrent methods of child evaluation, e.g. therapist's or psychiatrist's interview assessments.

It seemed that the CBCL might be yielding false positives for thought problems in our population. We were interested in determining, in an urban, low SES population, whether endorsement of thought problem items corresponded to the psychiatrist's or therapist's diagnosis of the child. We were also interested in looking at the specific ways in which thought problem items might be misunderstood in this sample.

Method

Forty-six children seen at an urban hospital outpatient mental health clinic served as subjects.

Males outnumbered females by approximately 3:1. There were 35 males and 11 females. Thirty-two of the children were African -American (69%) and thirteen Caucasian (3 of these children were listed by their parents as Hispanic, and the racial background of one child was unlisted). The ages of the children ranged from 4-17, clustering predominantly in the 7-9 year old range. The modal age was 8. A majority of the children were on public assistance (Title 19 or medicaid assigned to HMO's). The demographics of the patient population have remained consistent with a previous study of therapy outcome at the same hospital nearly a decade ago (Longeway, K. and Glicklich, L., 1991).

All of the children participated in an intake evaluation with a clinic therapist (either a Master's level clinician or a Clinical Psychologist). A provisional diagnosis based on at least two assessment sessions with the child and parent was assigned. Assessment sessions generally consisted of a background interview with the parent, and a diagnostic/play interview with the child. The Achenbach CBCL was generally given to the parent to complete independently, and was scored using the computerized package by a psychology intern. The majority of CBCL forms were completed by the child's mother. Forms were also sent to each child's teacher. Provisional diagnoses were determined by the therapists independent of CBCL results.

Twenty-one of the children were referred to a Board Certified Child Psychiatrist for consultation and/or psychopharmacological evaluation. The psychiatrist generally had access to the therapist's assessment results, and in some instances, to the results of the CBCL. The checklist produces clinical scales in the form of T-scores which have a mean of 50 and a standard deviation of 10. A T-score of 70 on the Thought Problems scales was considered deviant from the norm since it was two standard deviations above the mean.

Analysis of the items which comprise the Thought Problems scale was undertaken as well.

Specifically, the items which allowed respondents to write-in a description of the child's behavior were extracted to determine whether parents and teachers made correct interpretation of the questions posed; that is, whether they understood the clinical intent of the question. These items were:

9. "can't get the mind off certain thoughts"
40. "hears sounds and voices that aren't there"
66. "repeats acts over and over-compulsions"
70. "sees things that aren't there"
84. "strange behavior"
85. "strange ideas"

Two doctoral level therapists independently sorted all of the parent and teacher write-in responses into two categories— "appropriate" vs. "inappropriate" interpretation of the items. The raters were blind to the child's diagnosis during the sort.

Results

As expected, in view of the low incidence of psychosis and PDD in children, only three (7%) of the 46 subjects were provisionally diagnosed with thought disorder or PDD by a clinical therapist, and only one was ultimately diagnosed with PDD by the child psychiatrist . The actual diagnoses given these children by clinicians are shown in table 1.

However, approximately 46% of children who had completed data sets (i.e. a parent-completed CBCL plus diagnosis by a therapist and psychiatrist) scored in the clinical range for thought problems.

We were interested in how the critical items that contributed to the thought problem elevations might be understood by parents. Two child clinicians sorted all of the parent and teacher write-ins into two categories: "correct interpretation of the question" and "incorrect interpretation

of the question." A statistically significant Cohen's kappa (kappa=0.70, $p<.001$) indicated that the inter-rater reliability was better than chance. Eighty-five per cent of the write-ins were classified similarly by the raters.

There were more inappropriate write-ins than appropriate ones (40 incorrect, 26 correct). Parents, as opposed to teachers, were responsible for the majority of incorrect write-ins. Sixty-three per cent of the inappropriate write-ins were by parents (See figures 1 and 2.)

It appeared that certain questions (66-"repeats acts over and over," and 84-"strange behavior") were the most often misunderstood by parents. Examples of inappropriate write-ins to item 66 were: "kicking like power rangers," "stealing" and "snacker, sneaking desserts." Inappropriate write-ins to item 84 were "will use bad language out of the blue, has done flips in the hall" and "harming others, thinks it's funny." These comments by parents did not seem to be describing bizarre, repetitive, or ritualistic behaviors of the type associated with true thought disorder, but rather common child misbehavior.

Discussion

Our retrospective inspection of the CBCL Thought Problem scores of urban, low SES children does support the impression that the CBCL overidentifies thought problems in this population. In our clinic sample there were no "false negatives", i.e. failures to identify disordered thinking. However, a large number of "false positives" were noted. These children received other diagnoses, most commonly attention deficit disorder (ADHD), disruptive behavior disorder, dysthymia and adjustment disorder.

There are at least three possible explanations for the finding of excessive thought problem elevations reported here. First, it is possible that cases that were puzzling to clinicians were given CBCL's disproportionally. That is, children who presented as "odd" or having unusual thought patterns might have been more frequently given the CBCL's for clarification of diagnosis. Yet even if the cases were not entirely representative of the clinic as a whole, and included more children with possible disordered thinking, neither their intake diagnosis (made before the CBCL results were available) nor their discharge diagnosis reflected this.

Secondly, a "reverse social desirability" phenomena could be occurring. Economically disadvantaged parents may feel that their concerns will not be taken seriously unless the severity of symptoms is extreme. They may endorse items more readily in order to ensure that their child will receive treatment services. This could partially account for the divergent outcomes of rating scale scores and clinical diagnoses. Since the latter included an interview with the child, parent reports of behavior problems were tempered by direct observation. We must also consider whether there is a difference in threshold rates for childhood behavior problems among subgroups of parents. That is, what is considered "strange" for low SES parents may include a host of behaviors that clinicians from other SES backgrounds consider age appropriate.

A third conclusion could be drawn from the findings related to write-in comments. The majority of these comments were categorized as "incorrect interpretations" by two independent raters. Thus, the high proportion of children who scored in the elevated range for Thought Problems in this sample may truly reflect differences in how items are interpreted by urban, low SES parents as compared to parents included in the standardization sample of the CBCL.

In many cases the write-in comments described disruptive, defiant and/or hyperactive behaviors. Perhaps adding additional modifiers to some items on the Thought Problems scale would

indicate that a finer distinction is being sought. For example, item 84 on the CBCL is "strange behavior." If additional adjectives such as "bizarre," "weird," or "unusual" were included perhaps more accurate responses would be secured from this population.

Oesterheld and Haber (1997) used a focus group format to assess cultural and linguistic patterns of interpreting the CBCL and Conners Parent Rating Scale by native American mothers. The authors found that Dakotan/Lakotan mothers had difficulty responding to ten CBCL items. Mothers reported that they were unable to comprehend certain words or idioms on the scale, and that phrases on the scale implied dominant culture values. Mothers also reported beliefs that their responses could be misunderstood by members of the dominant culture. Oesterheld and Haber's findings seemed to support the idea that while items may have both face and construct validity for parents included in the standardization sample of the CBCL, there may be subgroups of parents for whom many items will be confusing and thus elicit inappropriate answers.

The potential costs associated with the differing interpretation of items by certain subgroups of parents on the Thought Problems scale of the CBCL are high. Mislabeling of children certainly can lead to overmedication and more restrictive settings for care. The disproportionate number of elevations on this scale reported by Raadal et al. (1994) and now found in the present study may indicate that the Thought Problems scale is invalid for low SES groups.

There are significant methodological improvements which would be required to report conclusively on the use of the CBCL in low SES populations. Larger sample size, uniform clinical diagnostic procedures, and random sampling of clinic-referred children would certainly increase the rigor of the findings. There seems to be mounting evidence, however, that objective parent report measures such as the CBCL may be more vulnerable to the influences of class, culture and linguistic style than previously considered.

While the CBCL is still a very useful broadband behavioral inventory, it is important in low SES samples to query responses to items on the Thought Problems scale prior to scoring. In addition, profile results should be used as only one component of a more comprehensive evaluation.

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Table 1: Clinicians' Diagnoses of Children with Significant CBCL Thought Problems Elevations

Therapist's Intake Diagnosis	Diagnosis at Discharge	MD Diagnosis
Post traumatic stress disorder	Disruptive behavior disorder NOS	Disruptive behavior disorder NOS R/O Dysthymia, R/O PTSD
ADHD PDD-NOS	ADHD PDD-NOS	Disruptive behavior
Dysthymia	Adjustment disorder ADHD	----------
ADHD	ADHD	ADHD Oppositional–Defiant disorder
Oppositional–Defiant disorder	PDD–NOS Oppositional–Defiant disorder	Oppositional–Defiant disorder R/O Dysthymia, R/O Psychosis
Disruptive Behavior disorder NOS R/O Depressive disorder	Disruptive Behavior disorder	----------
Post traumatic stress disorder	Post traumatic stress disorder	ADHD R/O Post traumatic stress disorder
ADHD	ADHD	----------
ADHD	ADHD	----------
Dysthymia	Dysthymia	Oppositional–Defiant disorder
Dysthymia	Dysthymia	----------
ADHD	ADHD	ADHD
ADHD	ADHD	PDD–NOS ADHD
Adjustment disorder with anxiety	Adjustment disorder with anxiety	----------
Post traumatic stress disorder	Post traumatic stress disorder Conduct disorder	----------
Adjustment disorder with anxiety ADHD	Adjustment disorder with anxiety	----------

PDD-NOS = Pervasive Developmental Disorder, not otherwise specified.

ADHD = Attention Deficit Hyperactivity Disorder

Figure 1

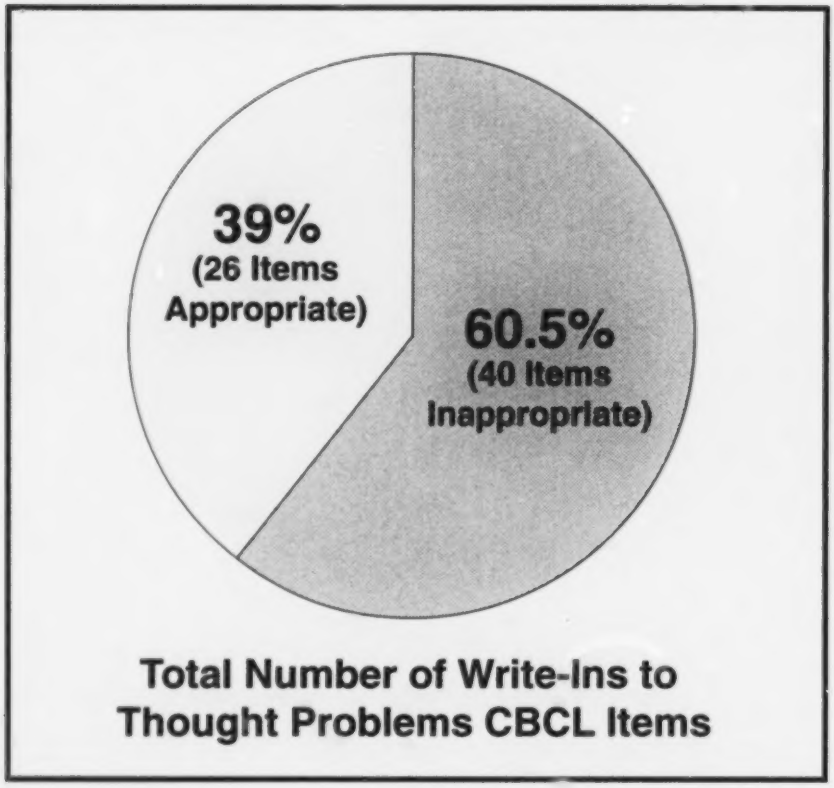
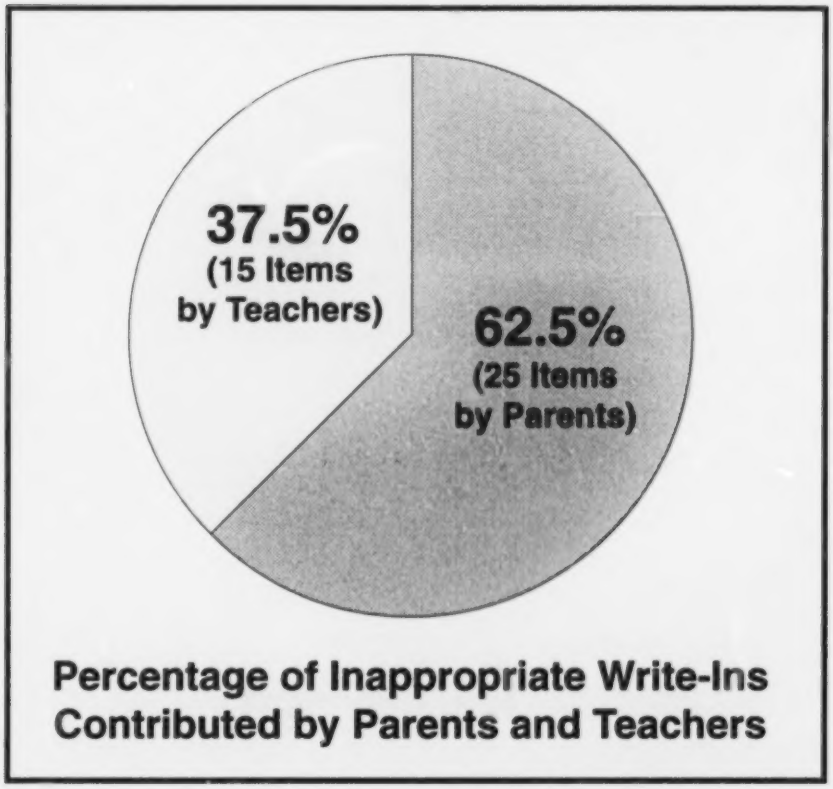


Figure 2



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